

**A new species of *Handlirschia* Kohl (Hymenoptera: Sphecidae),  
a very poorly known genus from South Africa**

by

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The genus *Handlirschia* was erected by Kohl (1896:425) for the reception of a single species, *aethiops* Handlirsch. This species, described from a unique male from South Africa ("Caffraria, Mus. Vindob. Coll. Winthem"), was included by Handlirsch (1889:467) in the genus *Sphecius* Dahlbom, though obviously with reservations. Thus Handlirsch drew attention to the differences exhibited by this species with respect to both Palaearctic and American *Sphecius* species and stated that it definitely represented a group of its own. It should be noted that at that date the two *Sphecius* species now known from the Ethiopian Region had yet to be described. As far as can be ascertained, the holotype of *Handlirschia aethiops* (Handlirsch), stated by Arnold (1929:260) to be in the Vienna Museum, has until the present remained the only known representative of the genus.

Characters which *Handlirschia* shares with *Sphecius* and which in their aggregate delimit these two genera from the rest of the Sphecidae (South African genera at least) are the following. Head with the labrum large, in greater part exposed, wider than long but shorter than the clypeus; ocelli convex; mandibles with a tooth before the apex; abdomen not petiolate; legs with the middle tibiae with two spurs and with all the claws unarmed; wings with three cubital cells; the second cubital cell not stalked; stigma small; radial cell not appendiculate, distinctly longer than its distance from the point where the basal vein meets the subcosta.

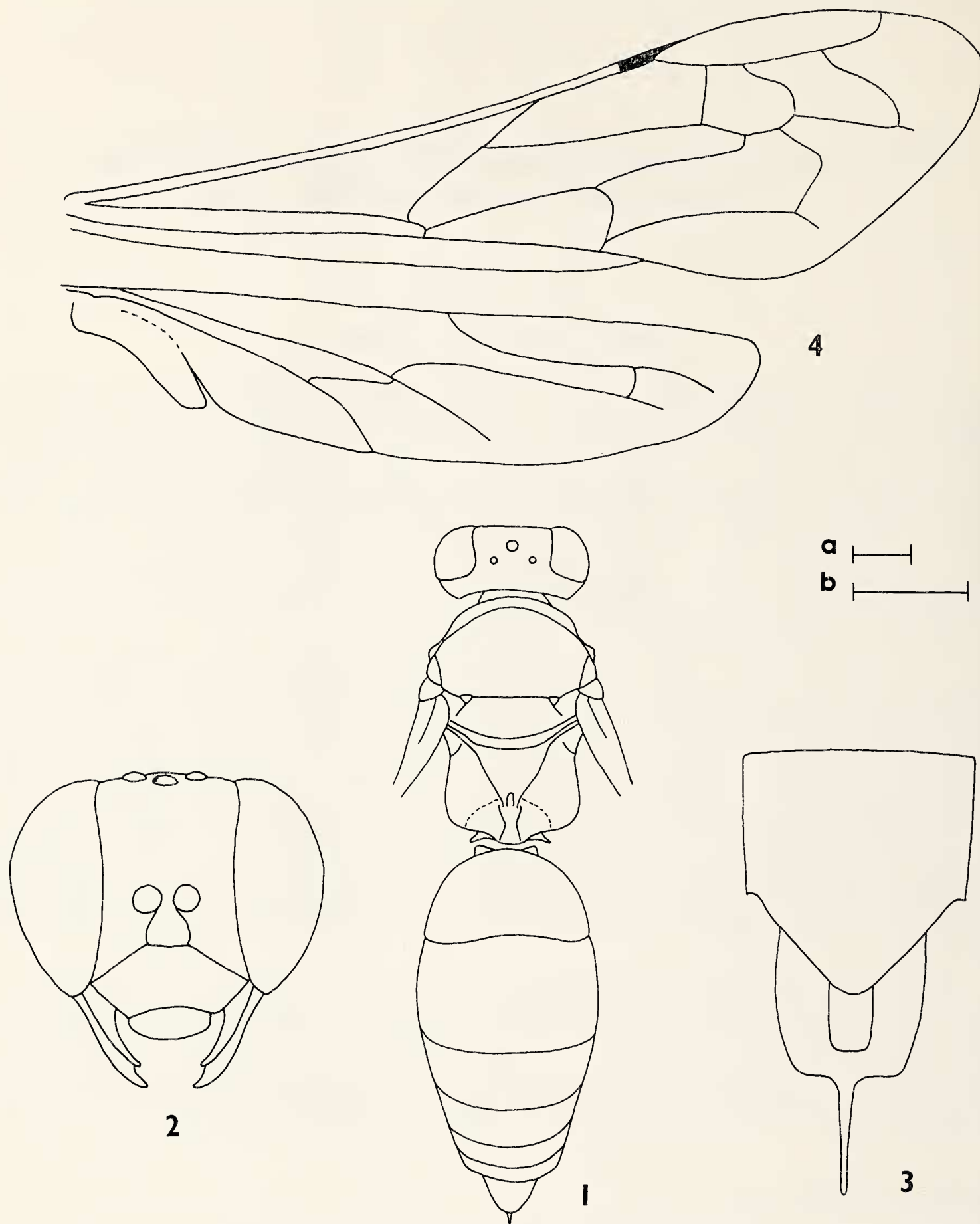
Characters possessed by *Handlirschia* which separate this genus from *Sphecius* are the following. Thorax lacking the episternal suture and the epicnemium (both present in *Sphecius*); propodeum compressed laterally so that the declivity is transversely concave (in *Sphecius* not compressed, declivity rounded or only feebly concave in its middle portion); hind wings with cubital vein originating shortly before end of submedial cell (originating far in front of end in *Sphecius*).

An unknown species represented in the Albany Museum collection by a small series of specimens from the north-eastern Transvaal Lowveld would, judged on the above delimiting characters, appear to be referable to the genus *Handlirschia*. Allowing for the fact that Kohl's generic description is based upon a single species and may consequently include a few characters of specific rather than generic status, the present species fits remarkably well. It therefore seems warranted to treat it as a species of *Handlirschia* and to describe it as such, as is done below.

***Handlirschia tricolor* sp.n.**

***Male.***

Labrum, clypeus, frons (except for black supra-antennal spots and ferruginous streaks connecting these with the similarly coloured ocellar region), temples broadly, mandibles (except for dark ferruginous apical third), underside of scapes, upper portion of pronotum



*Handlirschia tricolor* sp.n. (♂) Fig. 1. Head, thorax and abdomen (dorsal view). Fig. 2. Head (frontal view). Fig. 3. Sternites 6-8 (ventral view). Fig. 4. Wings.

Scale

a = 1 mm Fig. 1

b = 1 mm Figs. 2-4

including tubercles, anterior aspects of fore coxae, anterior aspect of mesopleura, *lemon-yellow*; sides of mesonotum, mesopleura medially, scutellum and metanotum, greater part of discs of tergites one to three and markings on four and five, *a darker more orange-yellow*.

Disc of mesonotum, a narrow subvertical streak on mesopleura, propodeum (except for median area of declivity and broad anterior and ventral margins laterally), anterior (declivous) face of first tergite, sides and roughly circular marking on disc of same, sides of tergite two, apex of tergite seven, sternites one and two and apex of sternite six, *reddish-ferruginous*; hind margins of tergites one to four, anterior bands or markings on tergites two to four, sides of tergites three and four, almost all of tergite five, whole of tergite six and basal part of tergite seven, sternites three to five and all but apex of sternite six, *darker ferruginous, in parts very dark, occasionally black*.

Supra-antennal spots, sometimes spots between the ocelli, underside of head, maxillae and labium basally, groove of pronotum, prosternum, central third of anterior margin of mesonotum (sometimes expanded posteriorly along midline), mesopleura dorsally immediately ventral to tegulae and also beneath and behind pronotal tubercle as well as posteriorly along suture (marking sometimes expanded onto disc) and sometimes ventrally in front of coxal cavities, metapleura, broad anterior and ventral margins of propodeum laterally and median area of declivity of same, *black*.

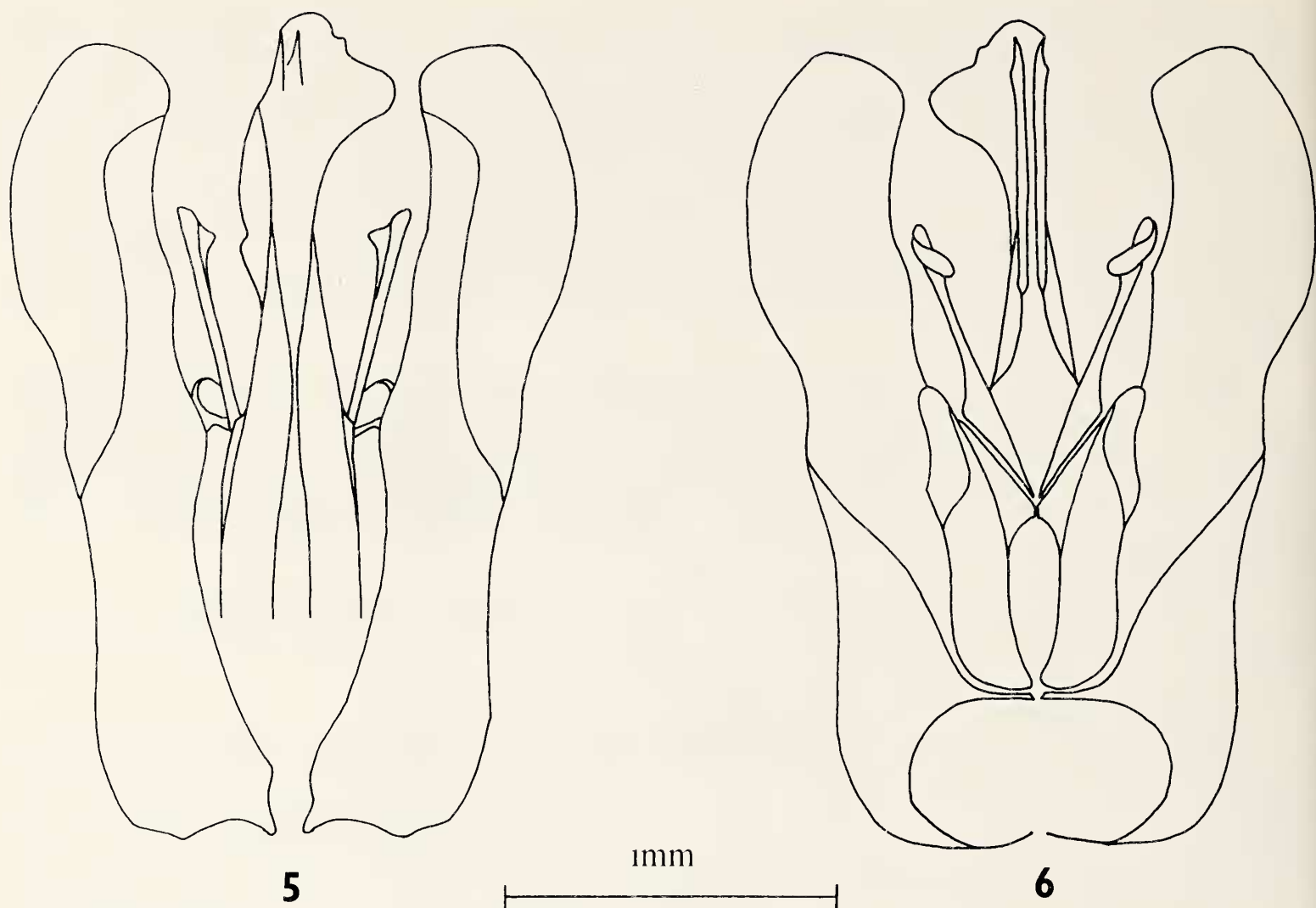
Antennae (except for lemon-yellow underside of scape) and legs (except for black at extreme base of coxae) varying from orange-yellow to light ferruginous. Wings slightly smoky, veins brown.

Length 12—13 mm, length of fore wing 9 mm, hamuli 15—20.

Whole body clothed with fine, decumbent, silvery-white pubescence, densest on labrum, clypeus and frons and on mesopleura (giving these parts a silvery sheen in oblique light), sparser on rest of thorax and on legs, sparsest on tergites. Coarser vestiture consisting of fine silvery-white erect pilosity most noticeable on frons above antennal sockets and on head below, on mesopleura and particularly on abdomen.

Head with puncturation (most obvious on frons and vertex) very fine and dense; pronotum appearing almost impunctate; mesonotum, scutellum, metanotum, mesopleura as well as dorsal and posterior declivous aspects of propodeum with fairly dense, large, ill-defined, shallow, slightly elongate punctures; metapleura and sides of propodeum very finely punctured with in addition an extremely sparse scattering of larger punctures; abdomen with puncturation of roughly similar size to that of mesonotum; puncturation of tergite one sparsest, that of following tergites progressively closer, that of tergite seven and also of sternites very like that of mesonotum and possibly somewhat coarser on terminal sternites.

Head narrower than thorax, in frontal view (Fig. 2) about 1,3 times wider across the eyes than long (from vertex to distal edge of clypeus); inner margins of eyes subparallel, divergent below, closest together a little above level of antennal sockets; frons at this level 1,5 times as wide as one eye; antennal sockets closer to each other than to eyes; ocelli round and convex; anterior ocellus distinctly larger than posterior pair; posterior ocelli separated from the eyes and from the anterior ocellus by their own diameter and from each other by twice this distance; clypeus with discs evenly convex and with anterior and posterior margins concave, about 2,5 times wider than long at midline; labrum with disc evenly convex and with anterior margin evenly curved, about twice wider than long but only about 0,7 times as long in midline as clypeus; mandibles fairly robust with a small inner tooth before apex; maxillary palps 6-segmented and labial palps 4-segmented; antennal scape robust, its length (without radicle) a little less than double apical breadth; segment 2 short; segments 2 and 3 together of same length as scape (without radicle); segments 4—13 shorter than 3; 4—10 becoming progressively shorter but wider; 11 equal to 10; 12 and 13 (in that order) longer and narrower; none of the segments excavated beneath.



*Handlirschia tricolor* sp.n. (♂) Fig. 5. Genitalia (dorsal view). Fig. 6. Genitalia (ventral view).

Pronotum short, transverse, not quite linear above, sloping down steeply anteriorly; pronotal tubercles prominent, extending posteriorly to just beyond the anterior edge of the tegulae; mesonotum 1,75 times wider (above pronotal tubercles) than long in midline, with well developed lamina laterally expanded over the bases of the tegulae and posteriorly obliquely truncate; scutellum with disc almost flat, almost three times longer in midline than metanotum; mesopleura and metapleura together very convex causing the thorax to bulge out laterally at this level; mesopleura without any indication of episternal suture and epicnemium; propodeum with sides subparallel, with dorsal and declivous parts rounded at junction, laterally at least almost smoothly arcuate; median triangular area very clearly defined by deeply impressed lines and furnished in the midline over its apical third with a wide, deeply-impressed, smooth-edged longitudinal fossa; sides of propodeum somewhat compressed and the declivity thus somewhat concave; median area of declivity longitudinally (i.e. subvertically) bicarinate; the carinae nearest together in the upper quarter of declivity, abruptly divergent above this point and gradually divergent below.

Abdomen widest at middle of second segment; tergite one a little more than half as long as wide; tergite seven with sides converging distally, its apex narrowly rounded; sternite two in basal half slightly swollen medially and slightly depressed postero-laterally to swelling; sternite six (Fig. 3) with sides converging posteriorly, its apex narrowly rounded, its disc slightly depressed; sternite seven hidden under the sixth, narrow, only one third as wide as sternite eight, lamellate, its sides subparallel, its posterior angles rounded and its hind margin transverse;

sternite eight wide, its sides slightly convergent posteriorly, its posterior angles rounded and the hind margin transverse on either side of a long, robust, downwardly curved, pointed spine projecting posteriorly in the midline and extending beyond the end of the abdomen.

Genitalia (Figs. 5 and 6) with parameres large and of more or less even width; cuspis shorter than digitus, rounded apically and furnished with fine setae in distal half beneath; digitus heavily sclerotised, strongly downwardly curved, sickle-shaped in side view, inwardly curved at apex.

Bases of coxae of middle and hind legs covered by paired posteriorly directed processes of the meso- and metasterna; processes of mesosternum wider, more or less lamellate and triangular; those of metasternum narrower, more or less finger-like; hind coxae approximate, much larger than separated middle coxae; legs generally unmodified; tibiae and tarsi sparsely spinose; middle tibiae with two spurs; the outer spur wider than the inner and sharply bent shortly before the apex; spurs of hind legs long and spatulate; all claws simple.

Wings as in Fig. 4.

#### Female

Very similar to male in colouration, general appearance and size, differing however in the following respects: fore legs, especially tarsi, more robust; comb present on fore tarsi and composed of six stiff spines on first tarsomere, two on second tarsomere and one on both third and fourth tarsomeres (spines 1—5 of first tarsomere short, rest longer); terminal tarsomere of fore leg, its claws and pulvillus greatly enlarged; outer spur of middle tibia the same as the inner, not bent shortly before apex; tergite six with a pygidial area indicated on apical half.

Described from five specimens, all with the same data: Transvaal: Gravelotte, Beacon Ranch, i. 1966 (D. J. Brothers), Holotype ♂, Allotype ♀ and 3 Paratype ♂♂. (Albany Museum collection).

Judging from the description of *H. aethiops* (Handlirsch) the most noticeable differences between that species and *tricolor* sp. n. are those of puncturation, pilosity and colouration. Thus *aethiops* has almost the whole body very coarsely punctured and covered with a dense fuscous pilosity; in colouration it is predominantly black with a violaceous lustre on the abdomen, while yellow markings are restricted to parts of the head. Morphologically the outstanding points of difference are that *aethiops* has some of the antennal segments excavated beneath, has the propodeum smooth and shiny and without a median area, and has the tibiae of the middle legs furnished with a pointed tubercle below near the apex which is also produced into a point. In addition the wings in relation to the body are very small.

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